DOCUMENT RESUME

ED 210 478 CE 030 741

AUTHOR Cooper, Elmer L.; Nelson, Clifford I.
TITLE Relationships among FFA Membership Factors and Vo-Ag Programs in the Eastern FFA Region.
INSTITUTION Maryland Univ., College Park. Agricultural Experiment Station.
REPORT NO MAES-SA-A-3058
PUB DATE [81]
NOTE 11p.; Paper presented at the Annual Convention of the American Vocational Association (Atlanta, GA, December 1981).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Agricultural Education; Enrollment; *Enrollment Influences; *Extracurricular Activities; Participant Satisfaction; Program Improvement; Secondary Education; *Self Evaluation (Groups); *Student Attitudes; Student Organizations; *Student Participation; Student Recruitment; Teacher Attitudes; Teacher Characteristics; Teacher Participation; Teacher Qualifications; Teacher Shortage; Vocational Education
IDENTIFIERS *Future Farmers of America

ABSTRACT

At the request of the Future Farmers of America (FFA), an analysis was conducted of reasons for a decline in membership in 1977-79 after a 40-year period of steady growth. Factors such as the vocational-agriculture teacher shortage, number of chartered FFA chapters, certification status of teachers, FFA membership costs, and contract length of teachers were studied to determine their relationships to FFA membership trends. Following a pilot study, questionnaires were developed and mailed to a 1 percent random sample of vocational agriculture students in the 15-state FFA Eastern Region, and to 5 percent of the teachers of vocational agriculture in the region. A total of 1,527 questionnaires were sent, with a return of 89.7 percent (1,367). Analysis of the data gathered showed that some of the factors which are generally thought to have a negative influence on FFA membership numbers did not prove to do so in this study. There did not appear to be definite relationships between FFA membership changes and the shortage of vocational agriculture teachers, the use of teachers without full certification, the level of FFA membership costs, nor changes in the length of vocational agriculture teacher contracts. However, there did appear to be a relationship between the decline in FFA membership in the Eastern Region and the numbers of chartered FFA chapters. Continuance of the study on a national level, repeated at five-year intervals, would provide the ongoing assessment which must occur if the FFA is to continue its successes and change to meet future needs. (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED210478

RELATIONSHIPS AMONG FFA MEMBERSHIP FACTORS AND VO-AG PROGRAMS IN THE EASTERN FFA REGION *

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Dr. Elmer L. Cooper
Assistant Professor

Dr. Clifford L. Nelson
Professor
University of Maryland
College Park, Maryland

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Elmer L. Cooper

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

INTRODUCTION

Vocational agriculture has been strengthened by the Future Farmers of America (FFA), formally organized as such in 1928, and conceived and operated as an integral component of local and state programs in the U.S. since that time. There were 16,217 members in the FFA during fiscal year 1928-29, and membership grew steadily until it peaked at 509,735 in 1976-77. Since that peak, membership dropped 5 percent for 1977-78, and 2.5 percent during 1978-79. It was only after substantial efforts at all levels that national FFA membership again reversed for an increase of 2 percent for 1980-81. The "Plus 10" program is generally credited for that reversal, but one must wonder if the reversal is a permanent one. State supervisors, teacher educators, vocational agriculture teachers, United States Office of Education authorities, and National FFA Directors and staff administrators have expressed concern over the downturn in membership and seek to determine the cause or causes.

If FFA membership declined because of certain programming factors, then an analysis of trends and causes associated with them is imperative if program modifications are to be made. In this time of controversy over the use of federal funds to support vocational youth organizations, it is essential that vocational agriculture adapt to the needs of changing times, and that FFA activities, methods, and strategies be modified as needed to provide the valuable support to the total vocational agriculture program that it has in years past.

It would seem that national FFA membership would be associated with such factors as the number of chapters, qualifications of teachers, length of teacher contracts, cost of FFA membership, and type of agricultural program. However, reliable data were not available to verify such suppositions when FFA membership began to drop after rather spectacular growth in the early 1970's. A study of this nature was requested by FFA officials (Harris, 1980:13).

OBJECTIVES OF THE STUDY

The purpose of this study was to examine certain factors such as the vo-ag teacher shortage, number of chartered FFA chapters, certifi-

---

* This paper reports research conducted under the Maryland Agricultural Experiment Station (MAES) and is based in part on Master's thesis by Kevin M. Maxwell (1980) and D. Richard Arrington, III (1981), Department of Agricultural and Extension Education, University of Maryland, College Park, 20742.

Maryland Agricultural Experiment Station Scientific Article No. A-3058, Contribution No. 6123, Project T-29.

CE030744

cation status of teachers, FFA membership costs, and contract length of teachers to determine their relationships to FFA membership trends. Included in the study were social, economic, demographic, programmatic, and teacher factors. The specific objectives were to determine relationships between FFA membership trends and 1) the shortage of vocational agriculture teachers, 2) changes in the number of chartered FFA chapters, 3) numbers of chartered chapters, 4) use of vo-ag teachers without full certification, 5) increasing costs to FFA members, and 6) reduction in length of teacher contracts. Another objective was to establish benchmark data for future studies.

The following null-hypotheses were tested. There is no relationship between FFA membership trends in the Eastern Region and 1) the shortage of vo-ag teachers, 2) the number of chartered FFA chapters, 3) the use of vo-ag teachers without full certification, 4) increasing costs to members, and 5) the reduction in length of vo-ag teacher contracts.

METHODS AND PROCEDURES

A pilot study was conducted in Maryland by Maxwell, Cooper and Nelson to develop a suitable instrument for a regional or national study (Maxwell, 1980). The pilot constituted a comprehensive study of FFA membership trends in Maryland. The data for certain factors in the study were varied in format and had to be obtained from a variety of sources. These included records and other materials from the Maryland State Department of Education and the National Future Farmers of America. Further, data were obtained from a stratified random sample of secondary schools with vocational agriculture programs (Kerlinger, 1973:130).

It was concluded that the null-hypotheses as stated were appropriate for a regional or national study. Validated instruments for collection of data from teachers and students in a major study had been developed.

Populations and Samples

In meeting with the National FFA staff it was decided to add certain portions of the instrument used in the pilot study in order to pursue certain additional objectives. It was further decided to limit the geographical area to the fifteen-state Eastern FFA Region at that time.

Two separate populations were selected to provide essential data for the study. The first sample was drawn from the student population enrolled in vocational agriculture programs in the Eastern Region. This was accomplished by randomly drawing schools in each of the fifteen states of the Eastern Region in order to achieve a one percent sample of students in vocational agriculture. A stratified random sample was used in that a minimum of one school was selected from each state to assure representation of every state in the region. Additional schools were drawn from the larger states in accordance with the ratio of vocational agriculture students in each state to that of the region. Random selection within each state was completed with the use of the 1980 Agriculture Teachers Directory and a table of random numbers (Kerlinger, 1973:712-717). After the sample population was drawn, the supervisor of agriculture education in each state was asked to approve the study and solicit cooperation of teachers of vocational agriculture in the selected schools. Each selected school was contacted by phone to ascertain the enrollment of students in vocational agriculture and state the number of

FFA members and non-FFA members in the department. In addition to providing this information on the student population drawn for the sample, teachers indicated their consent to supervise the completion of the instrument by their students. Subsequently, the instrument and accompanying materials were mailed to each of the selected schools.

Only students in their second year or above in vocational agriculture were included in the survey, since the decision to join FFA may be postponed until late in the first year of vocational agriculture in some schools. Further, it was thought that such a procedure would provide for greater consistency and accuracy in the data.

The second sample consisting of five percent of the teachers of vocational agriculture in the Eastern Region was drawn. This was accomplished by random selection of teachers from schools having vocational agriculture programs in each of the fifteen states, as listed in the 1980 Agriculture Teachers Directory (Smith, 1980). Schools were randomly drawn from each state until a total of 5 percent of the teachers had been selected.

Data and Instrumentation

Data were collected by record search and use of four mail-survey questionnaires. The questionnaires were: 1) a teacher questionnaire to obtain information regarding all teachers; 2) a head teacher questionnaire designed to collect departmental information; 3) an FFA member questionnaire; and, 4) a non-FFA member questionnaire. Data obtained from head teachers concerning departmental enrollments, programs, FFA membership and other were treated as if provided by each teacher in the department for comparative computations. Data from the National FFA Center were also examined and analyzed when pertinent to the study. In order to provide some consistency over time, survey instruments developed by Willet (Willett, 1977) and modified by Maxwell (1980) were used as the foundation of the instruments developed for this study.

Follow-up Procedures

Letters of endorsement for the study were provided by the National FFA Advisor, Byron Rawls, and by the supervisor of agricultural education from each of the fifteen respective states. Follow-up procedures included three steps. Two weeks after the packets were sent a short follow-up letter was sent. Two weeks later a telephone follow-up was attempted. Finally, a second follow-up letter was sent. Three weeks after all follow-up procedures were completed no further returns were considered.

Returns

A total of 1,527 questionnaires were sent, with 1,369 of these returned and analyzed. This was an overall return of 89.7 percent of the invited samples.

Responses were received from 135 or 87.1 percent of the invited sample of vocational agriculture teachers, 77 or 90.6 percent of the vocational agriculture department chairpersons, 992 FFA members and 165 non-FFA members. The return rate for student questionnaires was 90.1 percent.

Analysis Procedures

Data from the survey instruments were coded and punched on the computer data cards. Statistical analyses were completed by use of the Statistical Package for the Social Sciences (Nie, 1975: Chapters 1 and 2). Frequency counts, percentages, mean, median, mode, standard error, standard deviation, kurtosis, skewness, variance, and range were computed on each item. Secondly, measures of relationships were applied by using chi-square and correlations on selected variables. Data from the survey instruments, from the National FFA Center, and from the Craig reports entitled "A National Study of the Supply and Demand for Teachers of Vocational Agriculture" (Craig, 1971-80) were used.

THE FINDINGS

The problem was to determine if selected factors in vocational agriculture programs were related to the decline in FFA membership in the Eastern Region of the U.S. and to collect benchmark data for future studies. The conclusions and recommendations are discussed as they related to the objectives and null-hypotheses for the study.

Objective One (1) - Teacher Shortage Versus FFA Membership

Objective one was to determine the relationship of the shortage of vo-ag teachers to FFA membership. The Pearson product-moment correlation was used as a test of relationships between the shortage of vo-ag teachers and FFA membership changes. This correlation was completed between the "number of teachers needed on August 1" as reported in the Craig studies, and the number of FFA members reported by the national for the ensuing year for 1971 through 1979 respectively.

The low correlation coefficient of .035 and the significance level of .920 indicated there was no discernable relationship between the number of vo-ag teachers still needed at the beginning of a school year and the FFA membership for each subsequent school year.

Objective Two (2) - Number of Chapters Versus Membership

Objective two was to determine the relationship between changes in numbers of chapters and changes in FFA membership. Net changes in the number of chartered FFA chapters in the Eastern Region by state and by region for the 1977-78 through the 1979-80 school years were observed. It was concluded from these data that there was not a significant change in the number of chartered FFA chapters in the Eastern Region from the 1977-78 through the 1979-80 school years. The net change for the region was -2. However, there were greater net changes for some states and these may be determined by referring to Table 1.

Objective Three (3) - Chartered Chapters Versus Membership

Objective three was to examine relationships between the numbers of chartered FFA chapters and FFA membership changes. The correlation coefficient of .86 indicated a positive association between the numbers of chartered FFA chapters and FFA membership in the Eastern Region. The significance level was .003. It was concluded that there is a positive relationship between the numbers of chartered FFA chapters and FFA membership in the Eastern Region.

TABLE 1

NUMBER OF CHARTERED FFA CHAPTERS, 1977-78 THROUGH 1979-80

EASTERN FFA REGION

School Year	Eastern Region Totals	Connecticut	Delaware	Maine	Maryland	Massachusetts	New Hampshire	New Jersey	New York	North Carolina	Ohio	Pennsylvania	Rhode Island	Vermont	Virginia	West Virginia
1977-78	1542	16	22	10	55	18	14	32	180	276	387	213	8	29	216	66
1978-79	1527	18	19	11	56	18	13	34	186	266	387	205	8	24	211	71
1979-80	1540	18	19	11	57	16	14	30	185	266	393	207	6	25	223	70
± Net change 1977-78 to 1979-80	-2	+2	-3	+1	+2	-2	0	-2	+5	-10	+6	-6	-2	-4	+7	+4
±% Net change 1977-78 to 1979-80	-.13	+12.5	-13.6	-10.0	+3.6	-11.1	0	-6.3	+2.8	-3.6	+1.6	-2.8	-25.0	-13.8	+3.2	+6.1

Objective Four (4) - Teacher Certification Versus Membership

Objective four was to examine teacher certification status as related to FFA membership. Visual examination of the data provided some indication that it may be more likely for vo-ag teachers with full certification status to have an FFA chapter than it was for teachers without full certification status. However, the chi-square significance level was .54 for this relationship.

Of those teachers who had an FFA chapter, full certification of teachers had no apparent relationship with FFA membership increasing, decreasing, or remaining stable. Of those teachers not fully certified, 64.5 percent experienced an increase in FFA membership, 16.1 percent a decrease, and 19.4 percent reported no change. The indication was that a higher percentage of teachers without full certification status experienced an increase in FFA membership as compared to teachers with full certification status. The significance level was .06. None of the findings were significant at the .05 level.

Objective Five (5) - Membership Costs Versus Membership Numbers

Objective five was to examine the effect of membership costs on FFA membership. There was a difference between FFA member and non-FFA member responses regarding the highest amount of dues they would be willing to pay. That difference, however, was not in a linear progression. For instance, 34 percent of the non-members indicated a dues level of $4.00 or less would be the maximum they would be willing to pay, while 26 percent of the members fell in that category. Further, 84 percent of the non-members indicated $10.00 or less was the maximum they would pay, while 93 percent of the members were in that category. A higher proportion of non-members than members expressed a willingness to pay over $10.00 for dues. Therefore, a larger proportion of non-members than members fell into the $0-$4 limit category and in the over $10.00 limit category, while the reverse was observed for the $4.01-$9.99 range. Secondly, FFA membership costs, other than dues, did not adversely affect FFA membership in most cases. However, since a linear

relationship between declining FFA membership in the Eastern Region and FFA membership costs was not found, the null-hypothesis of "no difference" was not rejected.

An important observation is that FFA membership costs do not adversely affect FFA membership numbers. Ninety-four percent of non-FFA members reported that the expenses associated with FFA membership had not prevented them from joining.

Objective Six (6) - Reduced Teacher Contract Length Versus Membership

Objective six was to examine the effect of reduction in length of teacher contracts on FFA membership. The conclusion drawn from the findings was that teachers on 11 or 12 month extended contracts were slightly more likely to have an FFA chapter than were teachers on 9 or 10 month contracts. The chi-square value was .03. However, there was no evidence that changes in length of teacher contracts were related to changes in FFA membership.

Objective Seven (7) - Benchmark Descriptive Data

A major objective of the study was to establish benchmark data regarding vocational agriculture students, teachers, and programs in the Eastern Region. Such data are needed to determine trends, relationships and cause-effect factors operating in vocational agriculture, and are reported in the sections that follow.

Departments and Programs

Data were received from 77 departments for Fall, 1980. Seventy-one or 92 percent had FFA chapters while six or 8 percent did not. Student enrollments in the departments ranged from 15 to 429 with a mean of 88. Of the departments having FFA chapters, the mean chapter size was 70 members. Distribution of departments by size and FFA membership is shown in Table 2.

TABLE 2

SIZE OF VOCATIONAL AGRICULTURE DEPARTMENTS AND FFA CHAPTERS

EASTERN FFA REGION, 1979-80

Enrollment	Departments Reporting		FFA Membership	Departments Reporting	
	N	%		N	%
1-50	22	29.7	1-50	30	43.5
51-100	29	39.2	51-100	23	33.3
100+	23	31.1	100+	16	23.2
TOTALS	74	100.0		69	100.0

In describing their vo-ag enrollment trends since the 1976-77 school year, head teachers of 24 departments or 33 percent reported increases, 27 or 37 percent reported decreases and 22 or 30 percent reported stable enrollments. Causes reported for decreases in enrollments were: decreasing school enrollments, changes in teachers or administrators, lack of interest in FFA, and more competition from other programs. Those reporting increased vo-ag enrollments cited the following causes: the program was just started, the program was restructured, and/or increased recruitment efforts were made.

FFA membership changes were more favorable than vo-ag enrollment changes. Twenty-seven or 37 percent of the departments reported membership increases since 1976-77, while 22 or 30 percent reported decreases, and 19 or 26 percent reported no change. Six or 8 percent had no FFA chapter.

Some reasons cited for FFA chapter membership increases were: keeping more graduated members, more student involvement, requiring all students to join, fund raising activities to pay dues, and program modifications. Reasons for FFA membership decreases were: decreased vo-ag enrollments, teacher apathy, student apathy, teacher turnover, voluntary membership, and unqualified teachers. A summary of enrollment trends is shown in Table 3.

TABLE 3

CHANGES IN VO-AG ENROLLMENT AND FFA MEMBERSHIP

1976-77 THROUGH 1979-80

Enrollment/Membership	Departments		Chapters	
	N	%	N	%
Increased	24	33	27	36.5
Decreased	27	37	22	29.7
Unchanged	22	30	19	25.7
No chapter	-	-	6	8.1
TOTALS	73	100	74	100.0

A majority of the departments conducted classes for grades 9, 10, 11 and 12. Three percent offered classes at the 7th grade level, 12 percent at 8th, 56 percent at 9th, 77 percent at 10th, 86 percent at 11th, 90 percent at 12th, and 18 percent at "other". Numbers of teachers per department ranged from 1 to 8 as follows: 47 percent of the departments had 1 teacher, 33 percent had 2, 8 percent had 3, 5 percent had 4, 3 percent had 5, 3 percent had 6, and 1 percent had 8. Most departments, 88 percent, reported year-long courses.

Sixty-eight percent of the departments offered agricultural production programs, while 47 percent reported agriculture mechanics, 45 percent reported ornamental horticulture, 18 percent reported agricultural business, 13 percent reported forestry, 12 percent reported natural resources, and 19 percent reported other. Further, 83 percent had an agricultural mechanics shop, 97 percent had a classroom, 23 percent had a classroom laboratory, 60 percent had a greenhouse, 16 percent had a nursery, 26 percent had a school farm, and 17 percent other.

Most vo-ag departments were housed in senior high schools and teachers classified the locations as "rural". Eight percent were in junior high schools, 49 percent in senior high, 17 percent in junior/senior high, 8 percent in vocational-technical high schools, and 18 percent in area vocational centers. Five percent of the departments reported that a majority of their students resided in urban/inner city, 30 percent had a majority of suburban students, and 64 percent had a majority of rural students.

Seventy-nine percent of the departments were permitted to have their FFA meetings during the school day, while 21 percent were not. Further, 88 percent reported that FFA members paid their own dues, 9 percent used chapter funds, and three percent used other sources. Ninety-two percent of the departments had FFA chapters and no respondents listed any other agricultural club. Other vocational youth organizations that were available included DECA in 48 percent, FBLA in 36 percent, FHA/HERO in 65 percent, HOSA in 16 percent, OEO in 5 percent, VICA in 35 percent, "other" in 10 percent, and "none" in 13 percent of the schools.

Vocational Agriculture Teachers

Of the 135 individual teachers in the survey, 95 percent had an FFA chapter in their schools. Ninety-one percent were males. Teachers had taught from 1 to 34 years with a mean of 9 years and a mode of 1. The distribution was 12 percent at one year, 8 or 9 percent at each of 2 through 5 years, 3 to 6 percent for most 6 through 12 years, and 3 percent or less for each of the remaining years.

Length of teaching contracts ranged from 9 to 12 months with 8 percent of teachers on 9 month, 21 percent on 10 month, 20 percent on 11 month, and 51 percent on 12 month contracts. Additionally, per diem pay for days worked beyond the teaching contract was reported by 29 percent of the teachers. Eight percent of all teachers reported 1-20 days, 13 percent reported 21-30 days and 8 percent reported over 30 days of per diem pay beyond their contracted year. Regarding changes in length of contracts, 8 percent reported an increase in length, 5 percent a decrease and 87 percent no change in the last five years.

Seventy-four percent of the teachers reported they had full certification, 25 percent had provisional or temporary, and 1 percent indicated no certification. Forty-eight percent of teachers reported 100 percent of their time for teaching vocational agriculture, and eighty-eight percent devoted 56 percent or more of their time to teaching vocational agriculture.

Concerning their preparation for advising FFA, 30 percent had a course(s) on advising youth while undergraduates, 41 percent had a special course on FFA, 59 percent had a unit on FFA in some course, 63 percent had experiences while student teaching, 22 percent had a graduate course and 21 percent cited other sources of experience. Further, teachers reported their first involvement with FFA as: 1) "member in high school", 50 percent; 2) "member in Collegiate FFA", 10 percent; 3) "while student teaching", 13 percent; 4) "while in first teaching position", 21 percent; 5) "other", 1 percent; and 6) "never", 5 percent. Twenty-six percent had started to teach with no FFA experience nor formal training for advising an FFA chapter.

Vocational Agriculture Students

There were 1,157 usable returns from vocational agriculture students reporting in Fall, 1980. Of these, 992 or 86 percent were FFA members. Ages ranged from 13 to 19 years with the mean age of FFA members being 15.9 while that of non-members was 16.6. The mode was 15 years for members and 17 years for non-members. Of the FFA members, 86 percent were males and 14 percent females. The non-FFA student group was 77 percent males and 23 percent females.

A question regarding the type of vocational agriculture program in which each student was enrolled revealed high FFA membership in agricultural production, but a high incidence of non-membership in specialized programs. Thirty-two percent of the non-FFA members were enrolled in ornamental horticulture programs.

Activities that would improve FFA as reported by large numbers of members were more social activities, more job-related activities, more contests, and more awards. Non-members mentioned more social activities and more job-related activities most frequently.

Regarding FFA dues, 38 percent of the members indicated FFA dues had increased within the last two years and 20 percent said the increase was too much. Additionally, thirty-one percent indicated that FFA costs other than dues were too high. However, these opinions had not prevented the students from continuing their memberships. Only 6 percent of the non-FFA students indicated the cost of belonging to FFA prevented them from joining.

CONCLUSIONS AND RECOMMENDATIONS

Some of the factors which are generally thought to have a negative influence on FFA membership numbers did not prove to do so in this study. There did not appear to be definite relationships between FFA membership changes and the shortage of vo-ag teachers, the use of teachers without full certification, the level of FFA membership costs, nor changes in the length of vo-ag teacher contracts. However, there did appear to be a relationship between the decline in FFA membership in the Eastern Region and the numbers of chartered FFA chapters.

As a result of this study and the data collected, several recommendations can be made. The authors recommend the following:

1. The shortage of vo-ag teachers should be further studied. In order to ascertain if the teacher shortage was adversely affecting FFA membership, one would have to ascertain if the teacher shortage was still present in October or later in any given year.
2. Determine the possible dynamic activity of chapter formation or closure which could result in a changing population of FFA chapters despite the phenomenon of no "net" change for a state or region.
3. Determine the quality of FFA activities and services as related to certification status of teachers.
4. Investigate the loss of potential members through departments that have never been opened because of lack of vo-ag teachers.
5. Investigate whether vocational horticulture departments vary significantly from vocational agriculture departments concerning the likelihood of having an FFA chapter, and analyze their participation in regional, state, and national activities.

6. Determine why students do not join organizations and what factors vary between schools with and without vocational student organizations.
7. Conduct studies similar to this one in the Central, Southern and Western FFA regions.
8. Repeat studies dealing with FFA membership at five-year intervals to determine changes over time.

In conclusion, the authors feel a great deal can be achieved by continuing the study of benchmark data collected as part of this study. Further, the continuance of the study on a national level and repeated at five-year intervals would provide the ongoing assessments which must occur if the FFA is to continue its successes and change to meet the challenges of the future.

BIBLIOGRAPHY

Arrington, D. Richard, III. "FFA Membership Trends in the Eastern Region of the U.S. as Related to Selected Factors in Vocational Agriculture Programs." (Master's Thesis, University of Maryland, College Park, 1981).

Craig, David G. "Regional Study of the Supply and Demand for Teachers of Vocational Agriculture in 1977." (Non-thesis paper, College of Education, University of Tennessee, Knoxville, March, 1971-1980).

Harris, C. Coleman. "A New Decade _Agricultural Education Magazine_, January, 1980.

Kerlinger, Fred M. _Foundations of Behavioral Research_, 2nd Edition. New York: Holt, Rinehart and Winston, Inc., 1973.

Maxwell, Kevin M. "A Study to Determine the Relationships Between Certain Selected Factors in Vocational Education in Agriculture Programs and FFA Membership Trends." (Master's Thesis, University of Maryland, College Park, 1980).

Nie, Norman H., _et al._ _SPSS--Statistical Package for Social Sciences_. New York: McGraw-Hill Book Company, 1975.

Smith, Pauline R. _Agriculture Teachers Directory-1980_. Saltsburg, Pa.: Smith Publications, 1980.

Willett, Percy. "Vocational Education in Agriculture Departments Without FFA - 1977." (Non-thesis paper, University of Maryland, College Park, 1977).

Paper presented at the Eighth Annual National Agricultural Education Research Meeting, Atlanta, Georgia, December 4, 1981.